

REMARKS

Applicants respectfully traverse and request reconsideration.

Claims 12, 13, 15 and 16 stand rejected under 35 USC § 103(a) as being unpatentable over Park in view of Meynard and further in view of Mahalingaiah. This is a new ground of rejection. Park describes a system for protecting against overheating of a CPU utilizing a multi-temperature sensor approach and also teaches reducing the overheating condition by reducing the power supplied to the CPU. For example, Park teaches the use of a sensor to detect a temperature of the CPU, that a reference temperature sensor is used to detect a temperature of a different circuit block and that a comparator outputs a signal indicating a higher temperature of the CPU or the circuit block. Park teaches performing a stepwise decrease of driving power to decrease the operation frequency of the CPU in a stepwise fashion. (See abstract) As admitted in the office action Park fails to teach, among other things, a system that overlocks a processor wherein the operating frequency is set above a nominal frequency when the detected junction temperature is less than the maximum rate at junction temperature. Meynard has been cited as allegedly being properly combinable with Park. Meynard however is directed to a system that provides overclocking based on bus activity and if desired, temperature, based on a single sensor approach. The system of Meynard, unlike Park, controls clock frequency in the CPU. In Park the way that frequency control is performed is based on the decreasing of the power supply voltage to the CPU. Park also teaches the use of a power supply temperature sensor in addition to multiple temperature sensors (one for the CPU and another one for a comparing part).

The office action alleges that the invention is taught if one ordinary skilled in the art was “to modify the control circuit disclosed by Park to use the overclocking capabilities as taught in Meynard.” However applicants respectfully submit that the resulting combination would not result in the claimed subject matter. For example, combining the teachings of Park with those of

Meynard would result in a system based on Park that could not operate in an overclocking condition since Park teaches controlling clock frequency by increasing the power supply or decreasing the power supply to a CPU. Increasing the power supply would cause the system of Park to be in operative since the voltage supply would have to increase above its ordinary voltage level to produce an increase in frequency high enough to be an overclocking frequency.

Also, there is no teaching or suggestion in any of the references to modify Park to increase its supply voltage beyond its nominal supply voltage to cause an overclocking condition. Accordingly, applicants respectfully submit that when the teachings are considered as a whole, as required, that the combined teachings do not teach the claimed subject matter. Accordingly, Applicants respectfully submits that claim 12 is in condition for allowance.

The dependant claims had additional novel not obvious subject matter.

Claims 17-19 stand rejected under 35 USC § 103(a) as being unpatentable over Culbert in view of Meynard and Park. Culbert is directed to a power managed graphics controller that monitors activity of components within a controller which require access to local memory and then decreases a clocking frequency for a memory interface in the controller to the local memory when the monitoring indicates that the reduced amounts of activity are present. As such Culbert describes a graphics controller that monitors its own engines for memory access activity and then decreases or increases its own clocks to manage power that it consumes. The cited portions of Culbert such as Column 6 through Column 7 actually described an internal arbitration unit that is inside of a graphics controller. There is no teaching or suggestion of a host processor providing or controlling the operating frequency of the graphics controller of Culbert. Meynard also fails to disclose a host processor and graphics co-processor operating as claimed. It is alleged that if one of ordinary skilled in the art were “to modify the clock controlled methods disclosed by

Culbert to use the overclocking capabilities based upon the maximum rate of temperatures taught by Meynard” that it would result in the claimed subject matter. However, because Culbert teaches that the graphics processor controls its own clock frequency, combining Meynard with Culbert would result in the graphics processor to overclock itself. However claim 17 requires a different operation. For example, claim 17 requires that a host processor, causes in response to a control signal, an increase in the operating frequency of a clock signal of the graphics co-processor. Modifying the clock control methods of Culbert with those of Meynard would simply result in the graphics co-processor of Culbert controlling its own clock frequency to overclock. This is different from the claim subject matter. Accordingly, applicants respectfully submit that the claims are in condition for allowance.

The dependant claims add additional novel and non-obvious subject matter.

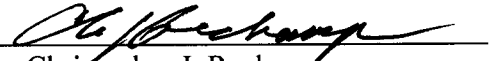
New claim 35 is also believed to be allowable for the above reasons and also since the cited portions of the reference do not teach an interrupt based control which can among other things result in faster operation compared for example to a polling operation. Other advantages will be recognized by those of ordinary skill in the art.

In addition new independent claim 34 is also believed to be allowable since the cited portions of references also do not teach a look up table approach as claimed and as such this claimed is also believed to be in condition for allowance. The new claim is also believed to be in condition for allowance based on the relevant remarks made above.

Accordingly, Applicants respectfully submit that the claims are in condition for allowance and that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

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